

What Is Claimed Is:

- 1 1. An amplifier circuit, comprising:
2 an operational amplifier having a non-converting input
3 terminal coupled to a ground, a converting input
4 terminal, and an output terminal; and
5 a resistor network comprising a plurality of stages
6 connected serially, coupled between the converting
7 input terminal and the output terminal, wherein each
8 stage of the resistor network comprises:
9 an input node;
10 an output node;
11 a first resistor coupled between the input node
12 and the ground; and
13 a second resistor coupled between the input node
14 and the output node.
- 1 2. The amplifier circuit as claimed in claim 1, wherein
2 the resistance of the first resistor is two times larger than
3 the resistance of the second resistor.
- 1 3. The amplifier circuit as claimed in claim 2, wherein
2 the equivalent resistance of the resistor network is $2^n \times R$,
3 wherein the resistor network includes n stages and the
4 resistance of the second resistor is R .
- 1 4. An amplifier circuit, comprising:
2 an operational amplifier having a non-converting input
3 terminal coupled to a ground, a converting input
4 terminal, and an output terminal;

5 a first resistor network comprising a plurality of stages
6 connected serially, coupled to the converting input
7 terminal for receiving an input voltage, wherein each
8 stage of the first resistor network comprises:
9 an input node;
10 an output node;
11 a first resistor coupled between the input node
12 and the ground; and
13 a second resistor coupled between the input node
14 and the output node; and
15 a loading unit coupled between the converting input
16 terminal and the output terminal.

1 5. The amplifier circuit as claimed in claim 4, wherein
2 the resistance of the first resistor is two times larger than
3 the resistance of the second resistor.

1 6. The amplifier circuit as claimed in claim 5, wherein
2 the equivalent resistance of the resistor network is $2^n \times R$,
3 wherein the resistor network includes n stages and the
4 resistance of the second resistor is R .

1 7. The amplifier circuit as claimed in claim 4, wherein the
2 loading unit is a second resistor network comprising a plurality
3 of stages connected serially, wherein each stage of the first
4 resistor network comprises an input node, an output node, a third
5 resistor coupled between the input node and the ground, and a
6 fourth resistor coupled between the input node and the output
7 node.

1 8. The amplifier circuit as claimed in claim 7, wherein
2 the resistance of the third resistor is two times larger than
3 the resistance of the fourth resistor.

1 9. The amplifier circuit as claimed in claim 8, wherein
2 the equivalent resistance of the resistor network is $2^n \times R$,
3 wherein the resistor network includes n stages and the
4 resistance of the fourth resistor is R .

1 10. A resistor network includes a plurality of stages
2 connected serially, wherein each stage of the first resistor
3 network comprises:

4 an input node;

5 an output node;

6 a first resistor coupled between the input node and the
7 ground; and

8 a second resistor coupled between the input node and the
9 output node, wherein the resistor network is
10 implemented inside of an IC device.

1 11. The amplifier circuit as claimed in claim 10, wherein
2 the resistance of the first resistor is two times larger than
3 the resistance of the second resistor.

1 12. The amplifier circuit as claimed in claim 11, wherein
2 the equivalent resistance of the resistor network is $2^n \times R$,
3 wherein the resistor network includes n stages and the
4 resistance of the second resistor is R .

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5 13. The amplifier circuit as claimed in claim 10, wherein
6 each of the first resistor and the second resistor is implemented
7 by a MOS transistor.

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